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EPA United States Environmental Protection Agency

Coleman Evans Superfund Site

Project Update

April 5, 2000

Whitehouse, Florida

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PURPOSE OF THIS MEETING

1. Give a brief history of the Site and explain EPA's role in the clean-up.

2. Explain the construction and excavation work that will be performed.

3. Explain how the contaminated soil will be cleaned by the Thermal Desorption Unit

4. Answer questions from the audience

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WEBPAGE

Visit the Coleman Evans webpage at:

http://www.saj.usace.army.mil/coleman

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MEETING GROUND RULES

1. **Meetings start and end as scheduled.**
2. **Meetings are open to public participation.**
3. **An atmosphere of mutual respect is expected at all times.**
4. **To allow for meaningful participation by everyone, time limits will be exercised.**

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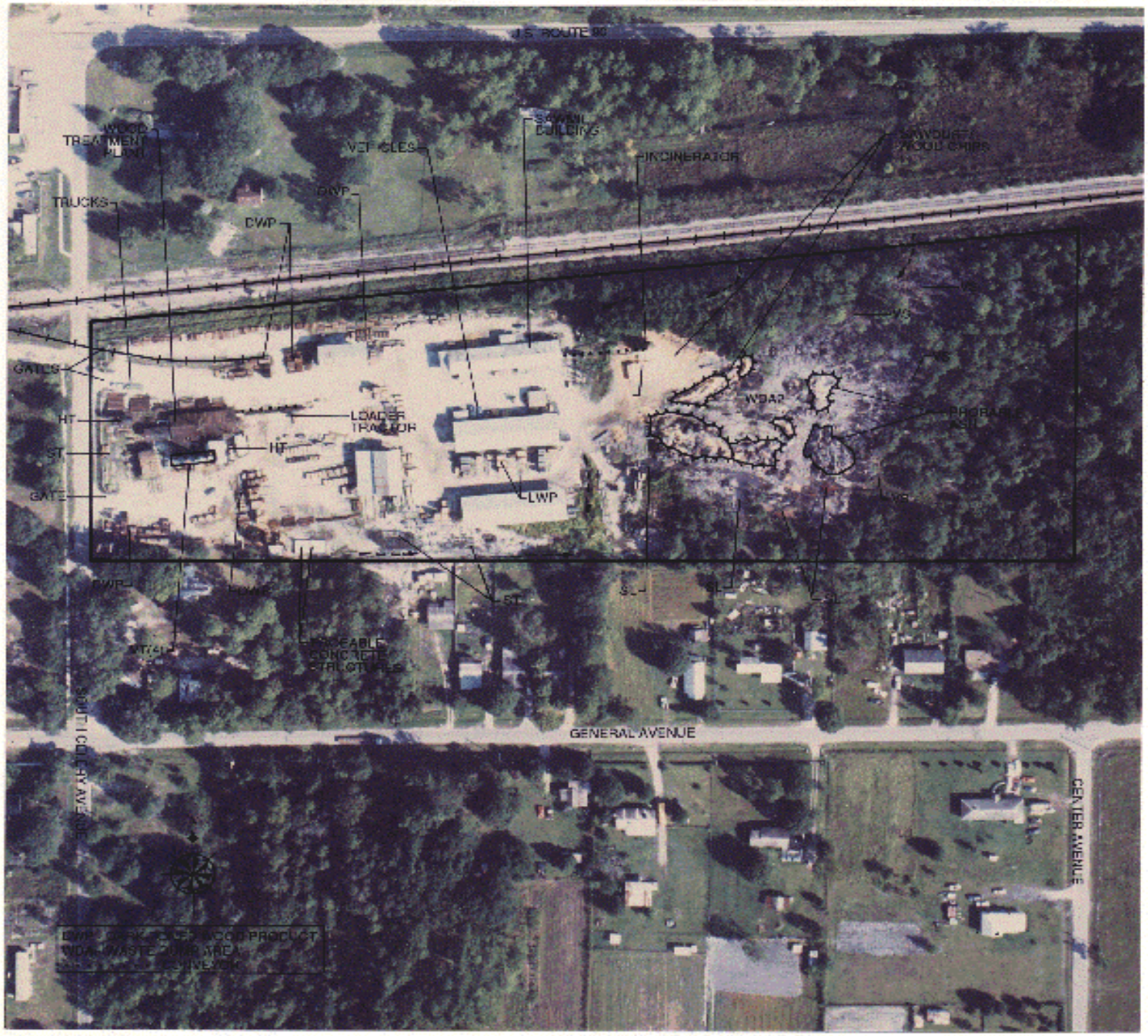
SITE HISTORY

- Former wood preserving operation
- Privately owned and operated from 1954 to mid 1980s
- Wood was treated with pentachlorophenol (PCP) and fuel oil
- Due to poor waste management practice the site became contaminated with Dioxin and PCP



INTERPRETATION CODE

BOUNDARIES AND LIMITS

- FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTILITY

- VEHICLE ACCESS
- RAILWAY

SITE FEATURES

- DIKE
- STANDING LIQUID
- SL STANDING LIQUID
- EXCAVATION, PIT (EXTENSIVE)
- MOUNDED MATERIAL (EXTENSIVE)
- MM MOUNDED MATERIAL (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STRESS
- WD WASTE DISPOSAL AREA
- WV WETLAND VEGETATION

Figure 10. Coleman-Evans Wood Preserving site, September 8, 1982. Approximate scale 1:1,900.

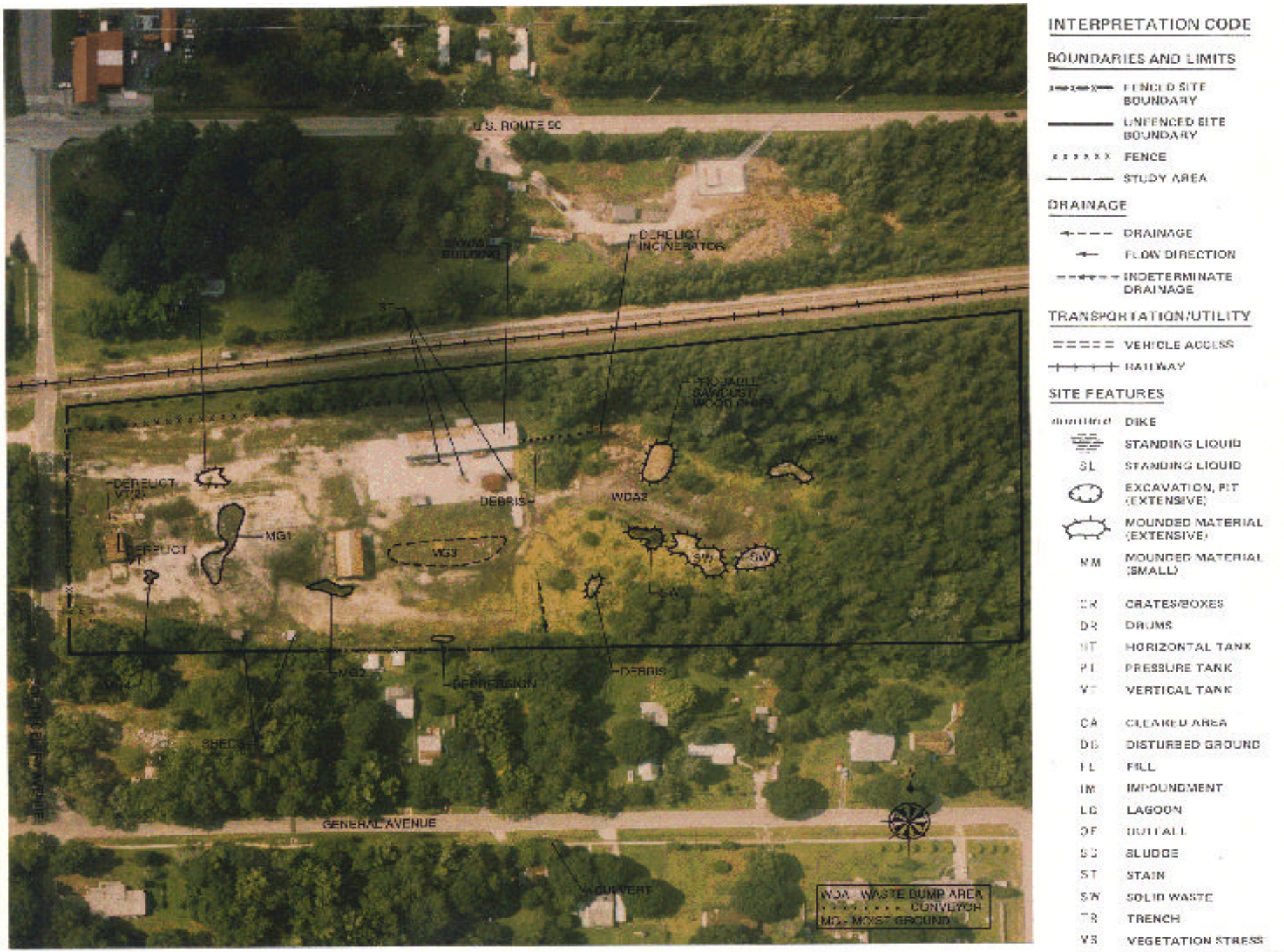


Figure 14. Coleman-Evans Wood Preserving site, June 14, 1997. Approximate scale 1:2,000.

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SITE HISTORY

- **EPA conducted several investigations and collected samples of the site soil and groundwater**
- **The sampling results also showed oil contamination in the soil and groundwater in small areas on the site property**
- **Based on the kind of contamination, Thermal Desorption was chosen as the selected remedy for the soil**

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SOIL CONTAMINATION

- Highest concentrations of PCP are located within the top 3 feet, but lower concentrations have been found at depths up to 18 feet
- Dioxin contamination is generally found in the top six inches of soil
- Pockets of liquid oil underground
- The cleanup levels for soil are 2 ppm for PCP and 1 ppb for dioxin

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GROUNDWATER CONTAMINATION

- No contamination has been detected in any of the surrounding drinking water wells at levels above the health and safety limits defined by EPA and Florida
- Contamination has been detected in the shallow groundwater
- Most of the groundwater contamination will be removed along with the soil that is excavated

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COMMUNITY INVOLVEMENT

- Interviews were conducted in 1995
  - Residents prefer a permanent solution
  - Residents primary interest is to see site returned to productive use
- Public meetings were held during the ROD development and public comment period
- Local government agencies were included in the design of this remedy
- Periodic Fact Sheets have been provided

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ROLE OF REMEDIATION TEAM MEMBERS

- U.S. Environmental Protection Agency (EPA): Overall project management and regulatory authority (90% funding)
- Florida Department of Environmental Protection (FDEP): State Regulatory Authority (10% funding)
- City of Jacksonville, Department of Regulatory & Environmental Services: City Regulatory Authority

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ROLE OF REMEDIATION TEAM MEMBERS

- U.S. Army Corps of Engineers (USACE): Provide technical support in the following areas:
  - Complete the Remedial Designs for both soil and groundwater remedies
  - Provide construction oversight and on-site management
- IT Group: Primary contractor hired to perform the cleanup work

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- Additional soil and groundwater sampling completed in 1998 and 1999
- Soil cleanup design was completed in November 1998
- Site work began in May 1999
- USACE construction managers will be on-site until the end of the project

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CLEAN UP OVERVIEW

- IT Group will perform the construction and excavation work
- Roy F. Weston, Inc. will perform the soil treatment work
- U.S. Army Corps of Engineers will oversee all of the clean-up work
- EPA, FDEP and City of Jacksonville will review the work procedures to be sure that all regulations are satisfied

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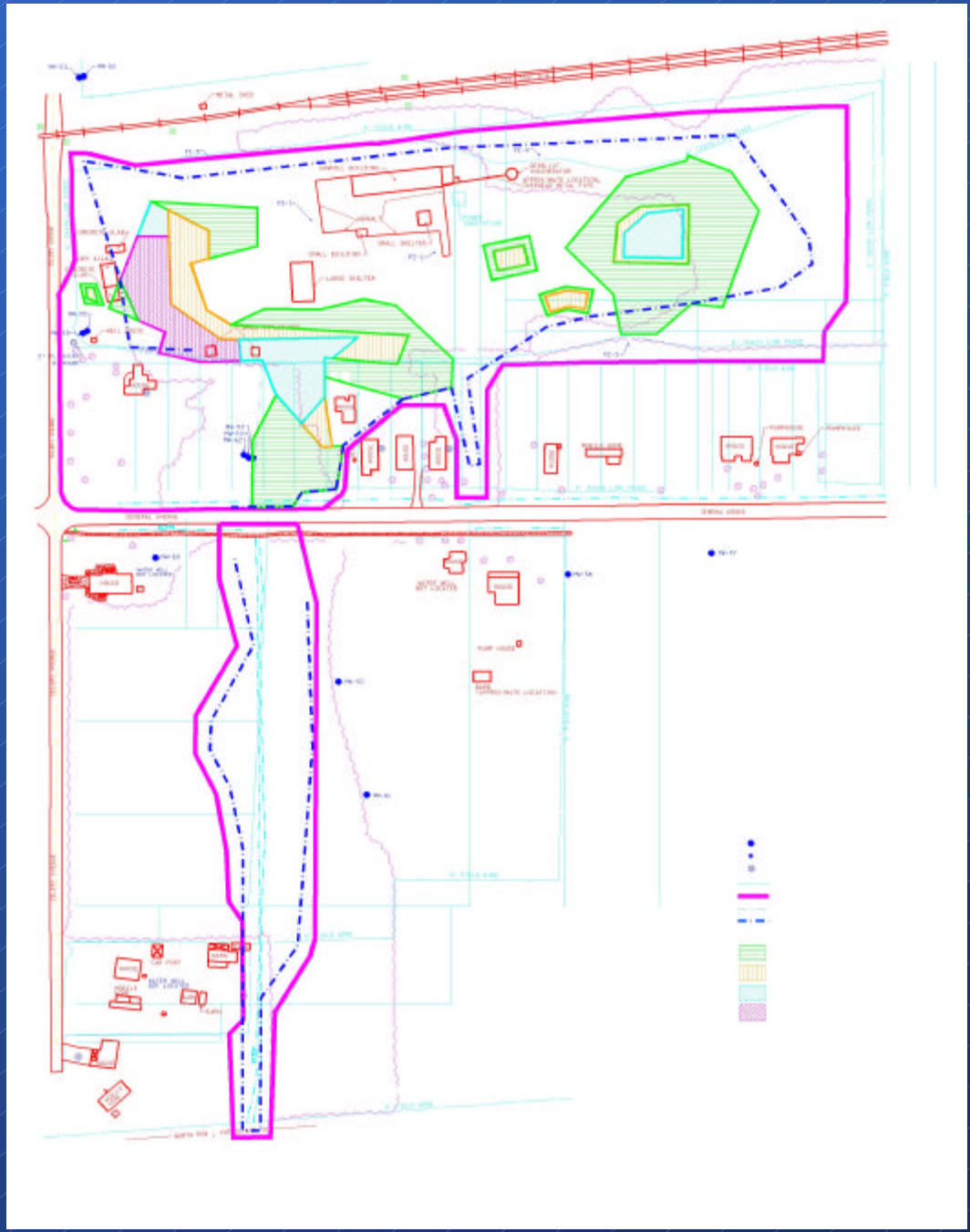
Excavation Limits



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ON-SITE CLEANUP ACTIVITIES

- An estimated 70,000 tons of contaminated soil will be excavated for treatment
- Truck traffic will be controlled to minimize disturbances to the residents
- Excavation work will be performed only during the hours of 7am to 7pm

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ON-SITE CLEANUP ACTIVITIES

- Sheet piling will be used in the deeper excavation areas
- Sheet piling are long pieces of steel that are hammered into the ground to make a wall that prevents the soil from collapsing into the excavation pit
- Pile driving will be limited to daylight hours only

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ON-SITE CLEANUP ACTIVITIES

- The soil and groundwater will be removed from each excavation area within the sheet piling walls
- The on-site air monitors will monitor the amount of dust in the air
- Water sprays will be used to control the amount dust from the work areas

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ON-SITE CLEANUP ACTIVITIES

- If the extra water does not reduce the amount of dust, then the dust generating activities will be shutdown
- EPA, FDEP, City of Jacksonville and USACE have determined a safe level for dust in the air based on the regulatory safety limits
- Also, portable air monitors will be used at each of the excavation areas to monitor the dust levels

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ON-SITE CLEANUP ACTIVITIES

- Groundwater in the excavation areas will will be collected
- All collected water will be treated, stored and sampled prior to discharge
- The free product oil will also be captured in the excavation areas
- The oil will be sent off-site for disposal or recycling

Groundwater - collects in excavation areas

Soil Contamination - dark soil staining

Water Tanks - treated and untreated water

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ON-SITE CLEANUP ACTIVITIES

- All of the on-site excavation areas will be filled with treated clean soil
- All excavated areas will be covered with at least 1 foot of clean fill

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ON-SITE CLEANUP ACTIVITIES

- The Thermal Desorption Unit (TDU) will operate 24 hours per day, 7 days per week
- There may be some mechanical noise from the TDU
- There will be some vehicle traffic during the night
- All vehicles are required by law to have back-up alarms

Concrete Foundation Pad - for the TDU

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OFF-SITE SOIL CLEANUP ACTIVITIES

- 6,500 tons of contaminated soil will be excavated from the off-site areas
- Excavated areas will be replaced with clean fill and covered with clean topsoil
- Excavated areas will be re-seeded and new trees and shrubs will be planted

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TEMPORARY RELOCATIONS

- Contamination has been found on private properties
- One temporary relocation has been planned
- Other relocations are not planned, but may be necessary

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APPROXIMATE CONSTRUCTION SCHEDULE

- Site Setup and Mobilization - May - Nov 1999
- Begin Soil Excavation - Dec 1999
- Thermal Treatment Operations begin - April 2000
- Off-Site Excavation - Fall 2000
- Complete Thermal Treatment - Spring 2001
- Site Closure and Demobilization - Summer 2001

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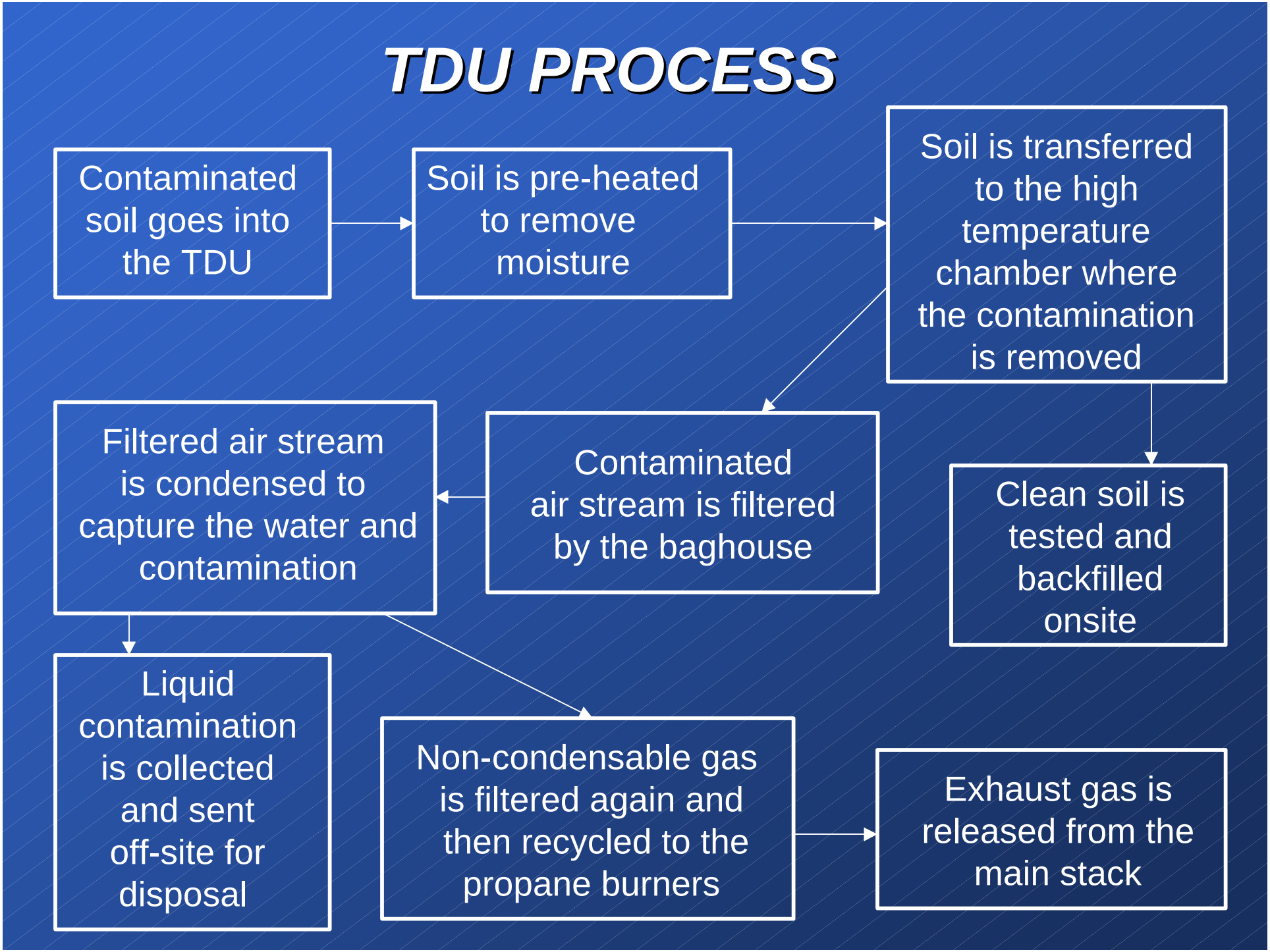
THERMAL DESORPTION UNIT

- The TDU will be used to treat the contaminated soil that is excavated

- Tonight we will discuss
  - TDU Process and Equipment
  - Testing of the TDU
  - TDU schedule

TDU PROCESS


Contaminated soil goes into the TDU
Soil is pre-heated to remove moisture
Soil is transferred to the high temperature chamber where the contamination is removed
Clean soil is tested and backfilled onsite
Contaminated air stream is filtered by the baghouse
Filtered air stream is condensed to capture the water and contamination
Liquid contamination is collected and sent off-site for disposal
Non-condensable gas is filtered again and then recycled to the propane burners
Exhaust gas is released from the main stack

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TDU PROCESS

- The TDU process is actually very simple:
  - The contaminated soil is heated inside the TDU to about 1,000 degrees F
  - The heat makes the contamination leave the soil and change to vapors like steam
  - The clean soil is cooled and tested
  - The steam vapors are cooled into a liquid made of contaminated oil and water

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TDU PROCESS

- **TDU Process**
  - **The liquid contamination is captured and will be sent off-site**
  - **The air is filtered to remove dust and any remaining contaminated vapors**
  - **The exhaust gas that comes out of the main stack will be clean air and will be very hot - about 1,600 Degrees F**

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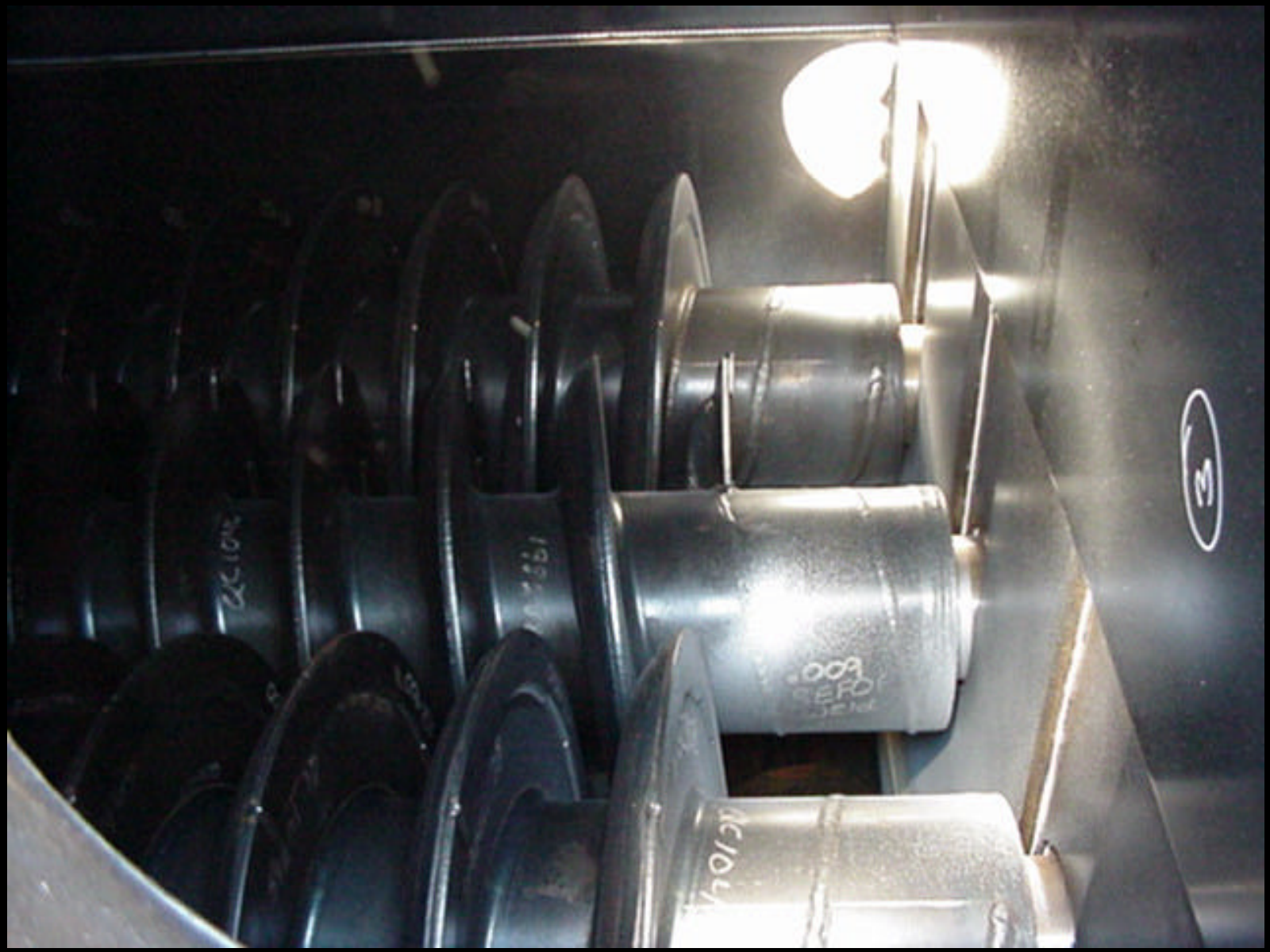
TDU EQUIPMENT

- The TDU consists of several key components:
  - Thermal Screw Processor
  - Transfer Conveyor
  - High Temperature Chamber
  - Baghouse
  - Condensers
  - Water Treatment System
  - Exhaust Stack

Feed Soil Stockpile

Feed Soil Conveyor - feeds soil into the TDU

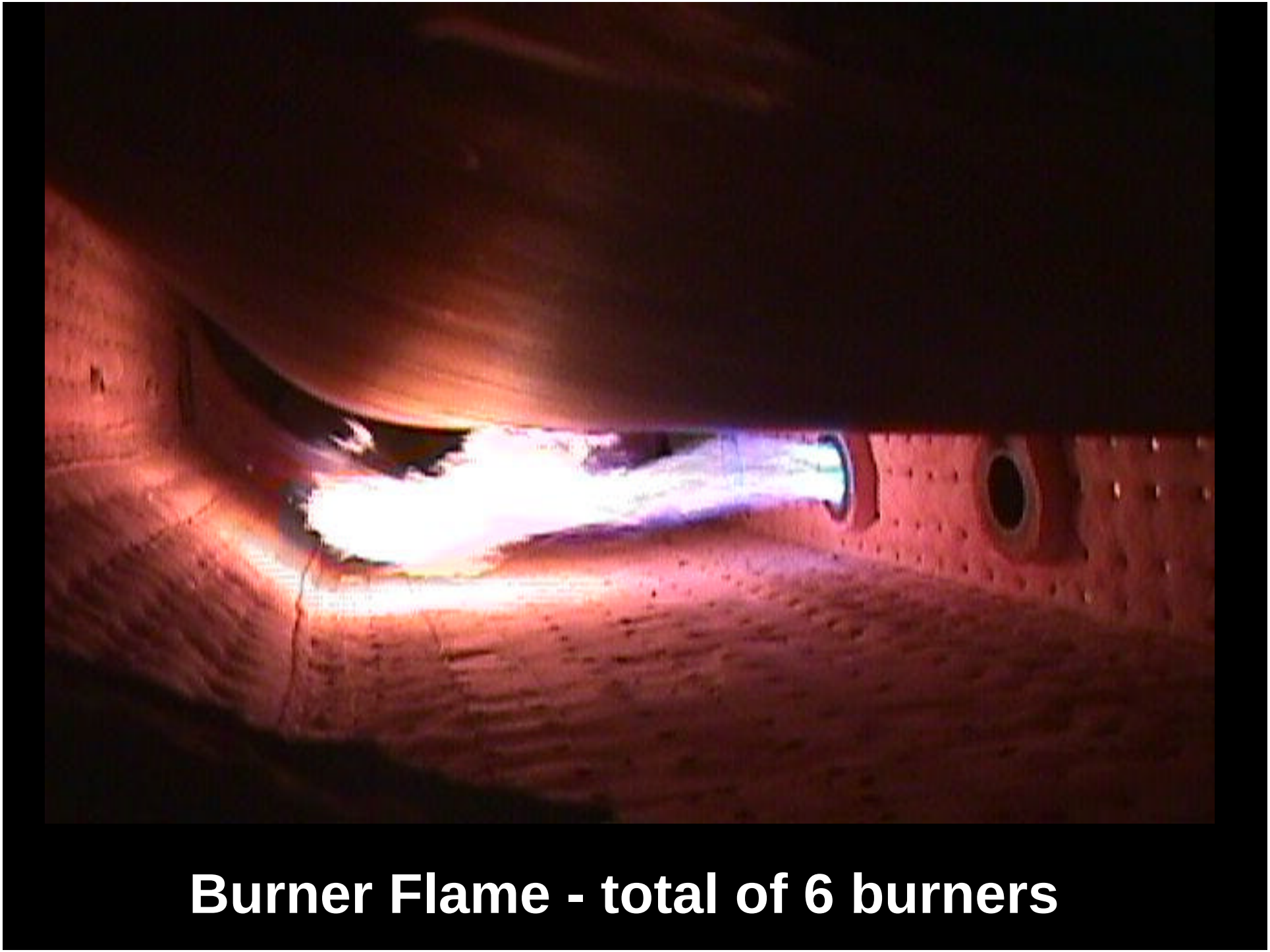


Preheater - interior

Thermal Screw Processor - pre-heats the soil

High Temperature Chamber

Primary Burner Train - propane fired



Burner Flame - total of 6 burners

Drag Conveyor - removes soil from the TDU

Baghouse - exterior

Main Exhaust Stack

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STARTUP PHASE

- **Startup Phase = TDU is first turned on, and tested. All Startup work is conducted on clean soil.**

- **This phase includes:**
  - **mechanical testing**
  - **testing of the control systems**
  - **24 Hour Continuous Operations Test**

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SHAKEDOWN PHASE

- Shakedown Phase = TDU is tested using contaminated soil.
- This phase includes:
  - Evaluation Test
  - Proof of Performance Test (POP Test)
- The Shakedown phase is limited to 30 days - 24 hours per day

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SHAKEDOWN PHASE

- **Evaluation Test**
  - **One test run at the same conditions that will be used for the POP Test**
  - **Soil and gas samples will be collected and analyzed**
  - **The POP Test cannot begin until all analytical data from the Evaluation Test is reviewed**

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SHAKEDOWN PHASE

- Proof of Performance (POP) Test
  - Three test runs at representative conditions
  - Soil and gas samples will be collected and analyzed
  - The POP Test is designed to confirm that the TDU is operating safely and effectively

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OPERATIONS PHASE

- Immediately after the POP Test, the TDU operations will be reduced to 85% capacity
- As soon as the POP Test results have been reviewed and approved by EPA, FDEP, and USACE, then the TDU will be allowed to operate at 100% capacity

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OPERATIONS PHASE

- The TDU system is constantly controlled by a computer control system and an actual human operator at all times
- If there is a problem, the computer automatically stops the system until it can be fixed
- The TDU will be operated at the same conditions that were shown to be successful by the POP Test

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AFTER SOIL TREATMENT IS COMPLETE

- **It will take about 2 months to completely clean, dismantle, and remove the TDU from the site.**
- **During this time, other site restoration work will continue on the site**
- **After, the construction work is finished, additional monitoring wells will be constructed to determine if there is any contamination left in the groundwater**

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TDU SCHEDULE

Activity	Tentative Dates
• Startup (24 hr/day operations begin)	April - May
• Shakedown	May - June
• Evaluation Test	June
• Proof of Performance Test	June
• Operations	July - December (until finished)

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FOR MORE INFORMATION

- **Mr. Stan Kinmonth - USACE, Jacksonville (904) 232-2162**
- **Mr. Randall Chaffins - EPA Project Manager (800) 435-9234 or (404) 562-8929**
- **Mr. John Sykes - FDEP Project Manager, Tallahassee (850) 488-0190**
- **Ms. Jacquelyn Griffin - USACE, Jacksonville Public Affairs Officer - (904) 232-1650**

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WEBPAGE

Don’t forget to visit the
Coleman Evans webpage at:

http://www.saj.usace.army.mil/coleman

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QUESTIONS

Questions from the audience

END